

Title (en)

WIDE ANGLE AND HIGH RESOLUTION TILED HEAD-MOUNTED DISPLAY DEVICE

Title (de)

KOPFMONTIERTE HOCHAUFLÖSENDE WEITWINKEL- UND MOSAIKANZEIGEVORRICHTUNG

Title (fr)

DISPOSITIF D'AFFICHAGE PAR PAVÉS MONTÉ SUR LA TÊTE À GRAND ANGLE ET HAUTE DÉFINITION

Publication

EP 2564259 B1 20150121 (EN)

Application

EP 10850502 A 20100430

Priority

CN 2010072376 W 20100430

Abstract (en)

[origin: WO2011134169A1] A tiled head-mounted display device comprises an optical component including a plurality of prisms with free-form surfaces, and a display component including a plurality of micro-displays (6), wherein the number of the micro-displays (6) and the number of the prisms with free-form surfaces is identical, and each prism with free-form surfaces and the corresponding micro-display (6) constitute a display channel. Each prism is a wedge prism including a first surface (2), a second surface (3) and a third surface (4). The exit pupil planes of each display channel are coincident, thus avoiding pupil aberration and keeping exit pupil diameter and eye clearance same as a single ocular. There is no resolution variance throughout the entire field of view, thus preventing extra trapezoid distortion. The tiled head-mounted display device is compact and lightweight, and provides wide field of view and high resolution. The tiled head-mounted display device can be readily applicable to augmented environments applications by simply adding an auxiliary free-form lens behind the prism with free-form surfaces.

IPC 8 full level

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CPC (source: EP US)

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